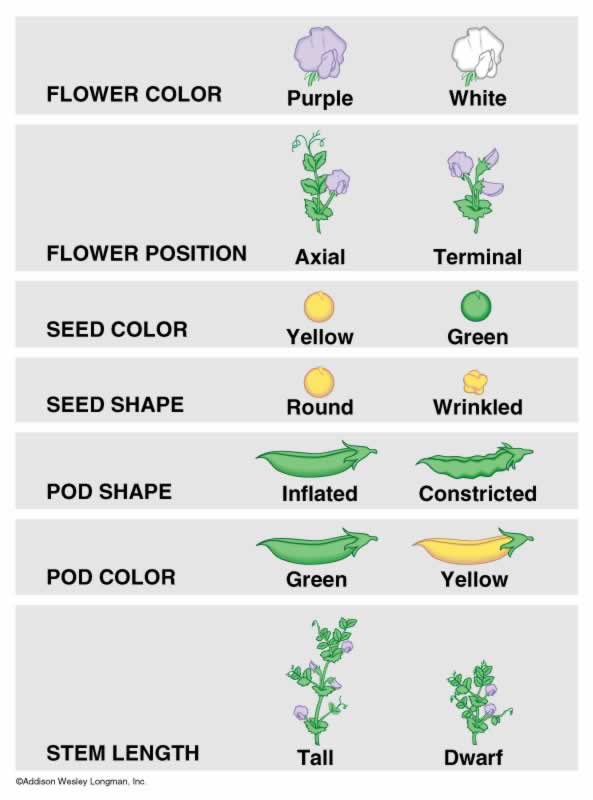
**Dihybrid Cross Quiz**

/8

In peas, the allele for inflated pods is dominant to the allele for deflated pods. The allele for green pods is dominant to the allele for yellow pods.

A pea plant with pods that are yellow and heterozygous for the inflated gene is crossed to a plant which has deflated pods and is heterozygous for the green gene.

**What is the probability that the offspring of this cross will have green inflated pods?**

For full marks be sure to include:

\_\_\_ Let statement(s) (/1)

\_\_\_ Genotypes of the two plants in the cross (/1)

\_\_\_ a NEAT completed Punnett square (/3)

\_\_\_ Genotype/phenotype frequencies (/2)

\_\_\_ The answer in a complete sentence (/1)

Let I represent inflated pods, and I represent deflated pods.

1 marks

Let G represent green pods and g represent yellow pods.

1 mark

Iigg x iiGg

1 mark

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Ig | Ig | ig | ig |
| iG | IiGg  Infl./Green | IiGg  Infl./Green | iiGg  Defl/Green | iiGg  Defl/Green |
| ig | Iigg  Infl./yellow | Iigg  Infl/yellow | iigg  defl./yellow | iigg  Defl./yellow |
| iG | IiGg  Infl./Green | IiGg  Infl./Green | iiGg  Defl/Green | iiGg  Defl/Green |
| ig  1 mark | Iigg  Infl./yellow | Iigg  Infl/yellow | iigg  defl./yellow | iigg  Defl./yellow  1 mark |

Genotype Frequencies

IiGg - 4/16

Iigg – 4/16

1 mark

iiGg – 4/16

iigg – 4/16

Phenotypic Frequencies

Inflated Green – ¼

1 mark

Inflated Yellow – ¼

Deflated Green – ¼

Deflated Yellow – ¼

The probability that a plant will have green inflated pods is ¼ or 25%.

1 mark